

A high-level monthly briefing on operations and activities at the Department of Energy's Idaho National Engineering and Environmental Laboratory – Home of Science and Engineering Solutions. Work at the lab supports the Department's business lines of environmental quality, energy resources, national security and science.

■ ENVIRONMENTAL QUALITY – Microbial Shopping Guide Offered

INEEL scientists are creating a microbial shopping guide to the hardy life inside Yellowstone's hot pools and other extreme environments. This month, researchers launched an experimental prototype of the Microbial Database and Map Server (<http://remus.inel.gov/ynphome>) – an interactive web-based catalog of microorganisms. With the new server, researchers from Idaho's universities and across the country will be able to go to one place to find the microorganism they desire. They can search by environmental phenomena (pH, temperature), by location or by name. The database provides exact GPS locations of each microbe, the water or soil conditions it thrives in and maps on how to get there.

■ SCIENCE/NATIONAL SECURITY – Detector Technology Quickly Finds Chemical Hazards

A new instrument developed by researchers at the INEEL can detect chemical warfare agents on the surfaces of plants or soil in under 10 minutes. No sample preparation is needed, and the instrument is accurate on samples as small as 40 grains of salt. Future work will focus on making the instrument and its computerized control system field portable. INEEL research team members hope the system will be routinely used to investigate suspected non-compliance with the international Chemical Weapons Convention. The technology could also advance characterization capabilities of emergency responders in the event of a terrorist attack using chemical agents.

■ ENERGY RESOURCES – INEEL Advances Quest for Cleaner-burning Gas

Researchers at the INEEL have developed an energy-efficient process for producing alkylate – a high-octane gasoline blend that is very low in environmental pollutants such as sulfur and benzene. The goal of this research is to make ultra-clean fuel production safer – for both workers and the environment – and more feasible. The Department of Energy Office of Fossil Energy funded this research in response to the recommendations of a panel of petroleum industry reviewers. The industry review team ranked the research as the top proposal – a clear sign of industry interest and research priorities.

■ NATIONAL SECURITY – International Experts Planning Idaho Forum

The International Atomic Energy Agency will conduct a technical workshop in Idaho Falls October 23-25, 2001. The workshop's purpose is to explore projects, technology options and challenges that could be addressed through international efforts in the fields of spent nuclear fuel safety and waste management for implementation at Andreeva Bay, Russia. Andreeva Bay is home to the Russian Northern Fleet's main nuclear waste storage site – containing more than 21,000 spent fuel elements. The U.S. hosted workshop, held in the home community of the INEEL, will be co-chaired by Randal Scott, Department of Energy, and Torbjorn Norendal, chairman of the International Atomic Energy Agency – Contact Experts Group. For more information on the workshop, contact Michael Modro, 208-526-9402, e-mail mod@inel.gov.

Editor's Note: *Intelligence* is part of a new family of publications from the INEEL, and replaces the former *Today and Tomorrow* news brief.

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